

Amendments to the Claims:

Claims 1. – 13. (Canceled).

14. (New) An optical device, comprising:

a continuous wave generator generating a continuous wave;

a first channel receiving the continuous wave, comprising:

at least a first medium having at least a first optical index, the first optical index varying with at least one characteristic of at least a first optical signal passing through the first medium; and

a delayer coupled with the first medium, the delayer delaying signals present on the first channel;

a second channel receiving the continuous wave, comprising:

at least a second medium having at least a second optical index, the second optical index varying with at least one characteristic of at least a second optical signal passing through the second medium, the second optical signal being a copy of the first optical signal, the second optical signal leading the first optical signal by a delay time; and

an interferometric structure making the signal present on the first channel interfere with a signal present on the second channel and generating an output signal forming a difference signal between the signal present on the first channel and the signal present on the second channel.